SEQUENCE LISTING

<110> Chen, Lieping

<120> B7-H1, A NOVEL IMMUNOREGULATORY MOLECULE

<130> 07039/187001

<140> US 09/451,291
<141> 1999-11-30

<160> 12

<170> FastSEQ for Windows Version 4.0

<210> 1
<211> 290
<212> PRT
<213> Homo sapiens

<400> 1
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Asn Ala Phe Thr Val Thr Val Pro Lys Asp Leu Tyr Val Val Glu Tyr
                20                  25                  30
Gly Ser Asn Met Thr Ile Glu Cys Lys Phe Pro Val Glu Lys Gln Leu
                35                  40                  45
Asp Leu Ala Ala Leu Ile Val Tyr Trp Glu Met Glu Asp Lys Asn Ile
        50                  55                  60
Ile Gln Phe Val His Gly Glu Glu Asp Leu Lys Val Gln His Ser Ser
 65                  70                  75                  80
Tyr Arg Gln Arg Ala Arg Leu Leu Lys Asp Gln Leu Ser Leu Gly Asn
                85                  90                  95
Ala Ala Leu Gln Ile Thr Asp Val Lys Leu Gln Asp Ala Gly Val Tyr
                100                 105                 110
Arg Cys Met Ile Ser Tyr Gly Gly Ala Asp Tyr Lys Arg Ile Thr Val
        115                 120                 125
Lys Val Asn Ala Pro Tyr Asn Lys Ile Asn Gln Arg Ile Leu Val Val
        130                 135                 140
Asp Pro Val Thr Ser Glu His Glu Leu Thr Cys Gln Ala Glu Gly Tyr
145                 150                 155                 160
Pro Lys Ala Glu Val Ile Trp Thr Ser Ser Asp His Gln Val Leu Ser
                165                 170                 175
Gly Lys Thr Thr Thr Thr Asn Ser Lys Arg Glu Glu Lys Leu Phe Asn
                180                 185                 190
Val Thr Ser Thr Leu Arg Ile Asn Thr Thr Thr Asn Glu Ile Phe Tyr
                195                 200                 205
Cys Thr Phe Arg Arg Leu Asp Pro Glu Glu Asn His Thr Ala Glu Leu
        210                 215                 220
Val Ile Pro Glu Leu Pro Leu Ala His Pro Pro Asn Glu Arg Thr His
225                 230                 235                 240
Leu Val Ile Leu Gly Ala Ile Leu Leu Cys Leu Gly Val Ala Leu Thr
                245                 250                 255
Phe Ile Phe Arg Leu Arg Lys Gly Arg Met Met Asp Val Lys Lys Cys
                260                 265                 270
Gly Ile Gln Asp Thr Asn Ser Lys Lys Gln Ser Asp Thr His Leu Glu
                275                 280                 285
Glu Thr
290
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<210> 2
<211> 870
<212> DNA
<213> Homo sapiens

<400> 2
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atgaggatat ttgctgtctt tatattcatg acctactggc atttgctgaa cgcatttact      60
gtcacggttc ccaaggacct atatgtggta gagtatggta gcaatatgac aattgaatgc     120
aaattcccag tagaaaaaca attagacctg gctgcactaa ttgtctattg ggaaatggag     180
gataagaaca ttattcaatt tgtgcatgga gaggaagacc tgaaggttca gcatagtagc     240
tacagacaga gggcccggct gttgaaggac cagctctccc tgggaaatgc tgcacttcag     300
atcacagatg tgaaattgca ggatgcaggg gtgtaccgct gcatgatcag ctatggtggt     360
gccgactaca agcgaattac tgtgaaagtc aatgccccat acaacaaaat caaccaaaga     420
attttggttg tggatccagt cacctctgaa catgaactga catgtcaggc tgagggctac     480
cccaaggccg aagtcatctg gacaagcagt gaccatcaag tcctgagtgg taagaccacc     540
accaccaatt ccaagagaga ggagaagctt ttcaatgtga ccagcacact gagaatcaac     600
acaacaacta atgagatttt ctactgcact tttaggagat tagatcctga ggaaaaccat     660
acagctgaat tggtcatccc agaactacct ctggcacatc ctccaaatga aaggactcac     720
ttggtaattc tgggagccat cttattatgc cttggtgtag cactgacatt catcttccgt     780
ttaagaaaag ggagaatgat ggatgtgaaa aaatgtggca tccaagatac aaactcaaag     840
aagcaaagtg atacacattt ggaggagacg                                      870
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<210> 3
<211> 290
<212> PRT
<213> Mus musculus

<400> 3
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Met Arg Ile Phe Ala Gly Ile Ile Phe Thr Ala Cys Cys His Leu Leu
1               5                   10                  15
Arg Ala Phe Thr Ile Thr Ala Pro Lys Asp Leu Tyr Val Val Glu Tyr
            20                  25                  30
Gly Ser Asn Val Thr Met Glu Cys Arg Phe Pro Val Glu Arg Glu Leu
            35                  40                  45
Asp Leu Leu Ala Leu Val Val Tyr Trp Glu Lys Glu Asp Glu Gln Val
        50                  55                  60
Ile Gln Phe Val Ala Gly Glu Glu Asp Leu Lys Pro Gln His Ser Asn
65                  70                  75                  80
Phe Arg Gly Arg Ala Ser Leu Pro Lys Asp Gln Leu Leu Lys Gly Asn
                85                  90                  95
Ala Ala Leu Gln Ile Thr Asp Val Lys Leu Gln Asp Ala Gly Val Tyr
            100                 105                 110
Cys Cys Ile Ile Ser Tyr Gly Gly Ala Asp Tyr Lys Arg Ile Thr Leu
            115                 120                 125
Lys Val Asn Ala Pro Tyr Arg Lys Ile Asn Gln Arg Ile Ser Val Asp
        130                 135                 140
Pro Ala Thr Ser Glu His Glu Leu Ile Cys Gln Ala Glu Gly Tyr Pro
145                 150                 155                 160
Glu Ala Glu Val Ile Trp Thr Asn Ser Asp His Gln Pro Val Ser Gly
                165                 170                 175
Lys Arg Ser Val Thr Thr Ser Arg Thr Glu Gly Met Leu Leu Asn Val
            180                 185                 190
Thr Ser Ser Leu Arg Val Asn Ala Thr Ala Asn Asp Val Phe Tyr Cys
            195                 200                 205
Thr Phe Trp Arg Ser Gln Pro Gly Gln Asn His Thr Ala Glu Leu Ile
        210                 215                 220
Ile Pro Glu Leu Pro Ala Thr His Pro Pro Gln Asn Arg Thr His Trp
225                 230                 235                 240
Val Leu Leu Gly Ser Ile Leu Leu Phe Leu Ile Val Val Ser Thr Val
                245                 250                 255
Leu Leu Phe Leu Arg Lys Gln Val Arg Met Leu Asp Val Glu Lys Cys
            260                 265                 270
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        Gly Val Glu Asp Thr Ser Ser Lys Asn Arg Asn Asp Thr Gln Phe Glu
            275                 280                 285
        Glu Thr
            290


<210> 4
<211> 873
<212> DNA
<213> Mus musculus

<220>
<221> CDS
<222> (1)...(870)

<400> 4
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Met Arg Ile Phe Ala Gly Ile Ile Phe Thr Ala Cys Cys His Leu Leu
  1               5                  10                  15

cgg gcg ttt act atc acg gct cca aag gac ttg tac gtg gtg gag tat        96
Arg Ala Phe Thr Ile Thr Ala Pro Lys Asp Leu Tyr Val Val Glu Tyr
                 20                  25                  30

ggc agc aac gtc acg atg gag tgc aga ttc cct gta gaa cgg gag ctg       144
Gly Ser Asn Val Thr Met Glu Cys Arg Phe Pro Val Glu Arg Glu Leu
             35                  40                  45

gac ctg ctt gcg tta gtg gtg tac tgg gaa aag gaa gat gag caa gtg       192
Asp Leu Leu Ala Leu Val Val Tyr Trp Glu Lys Glu Asp Glu Gln Val
         50                  55                  60

att cag ttt gtg gca gga gag gag gac ctt aag cct cag cac agc aac       240
Ile Gln Phe Val Ala Gly Glu Glu Asp Leu Lys Pro Gln His Ser Asn
 65                  70                  75                  80

ttc agg ggg aga gcc tcg ctg cca aag gac cag ctt ttg aag gga aat       288
Phe Arg Gly Arg Ala Ser Leu Pro Lys Asp Gln Leu Leu Lys Gly Asn
                 85                  90                  95

gct gcc ctt cag atc aca gac gtc aag ctg cag gac gca ggc gtt tac       336
Ala Ala Leu Gln Ile Thr Asp Val Lys Leu Gln Asp Ala Gly Val Tyr
                100                 105                 110

tgc tgc ata atc agc tac ggt ggt gcg gac tac aag cga atc acg ctg       384
Cys Cys Ile Ile Ser Tyr Gly Gly Ala Asp Tyr Lys Arg Ile Thr Leu
            115                 120                 125

aaa gtc aat gcc cca tac cgc aaa atc aac cag aga att tcc gtg gat       432
Lys Val Asn Ala Pro Tyr Arg Lys Ile Asn Gln Arg Ile Ser Val Asp
        130                 135                 140

cca gcc act tct gag cat gaa cta ata tgt cag gcc gag ggt tat cca       480
Pro Ala Thr Ser Glu His Glu Leu Ile Cys Gln Ala Glu Gly Tyr Pro
145                 150                 155                 160

gaa gct gag gta atc tgg aca aac agt gac cac caa ccc gtg agt ggg       528
Glu Ala Glu Val Ile Trp Thr Asn Ser Asp His Gln Pro Val Ser Gly
                165                 170                 175

aag aga agt gtc acc act tcc cgg aca gag ggg atg ctt ctc aat gtg       576
Lys Arg Ser Val Thr Thr Ser Arg Thr Glu Gly Met Leu Leu Asn Val
            180                 185                 190
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acc agc agt ctg agg gtc aac gcc aca gcg aat gat gtt ttc tac tgt          624
Thr Ser Ser Leu Arg Val Asn Ala Thr Ala Asn Asp Val Phe Tyr Cys
        195             200             205

acg ttt tgg aga tca cag cca ggg caa aac cac aca gcg gag ctg atc          672
Thr Phe Trp Arg Ser Gln Pro Gly Gln Asn His Thr Ala Glu Leu Ile
    210             215             220

atc cca gaa ctg cct gca aca cat cct cca cag aac agg act cac tgg          720
Ile Pro Glu Leu Pro Ala Thr His Pro Pro Gln Asn Arg Thr His Trp
225             230             235             240

gtg ctt ctg gga tcc atc ctg ttg ttc ctc att gta gtg tcc acg gtc          768
Val Leu Leu Gly Ser Ile Leu Leu Phe Leu Ile Val Val Ser Thr Val
            245             250             255

ctc ctc ttc ttg aga aaa caa gtg aga atg cta gat gtg gag aaa tgt          816
Leu Leu Phe Leu Arg Lys Gln Val Arg Met Leu Asp Val Glu Lys Cys
            260             265             270

ggc gtt gaa gat aca agc tca aaa aac cga aat gat aca caa ttc gag          864
Gly Val Glu Asp Thr Ser Ser Lys Asn Arg Asn Asp Thr Gln Phe Glu
        275             280             285

gag acg taa                                                               873
Glu Thr
        290


<210> 5
<211> 3616
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (73)...(942)

<400> 5
cccacgcgtc cgcagcttcc cgaggctccg caccagccgc gcttctgtcc gcctgcaggg          60
cattccagaa ag atg agg ata ttt gct gtc ttt ata ttc atg acc tac tgg        111
              Met Arg Ile Phe Ala Val Phe Ile Phe Met Thr Tyr Trp
                1               5                   10

cat ttg ctg aac gca ttt act gtc acg gtt ccc aag gac cta tat gtg          159
His Leu Leu Asn Ala Phe Thr Val Thr Val Pro Lys Asp Leu Tyr Val
        15                  20                  25

gta gag tat ggt agc aat atg aca att gaa tgc aaa ttc cca gta gaa          207
Val Glu Tyr Gly Ser Asn Met Thr Ile Glu Cys Lys Phe Pro Val Glu
 30                 35                  40                      45

aaa caa tta gac ctg gct gca cta att gtc tat tgg gaa atg gag gat          255
Lys Gln Leu Asp Leu Ala Ala Leu Ile Val Tyr Trp Glu Met Glu Asp
                50                  55                  60

aag aac att att caa ttt gtg cat gga gag gaa gac ctg aag gtt cag          303
Lys Asn Ile Ile Gln Phe Val His Gly Glu Glu Asp Leu Lys Val Gln
                65                  70                  75
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cat agt agc tac aga cag agg gcc cgg ctg ttg aag gac cag ctc tcc      351
His Ser Ser Tyr Arg Gln Arg Ala Arg Leu Leu Lys Asp Gln Leu Ser
         80                  85                  90

ctg gga aat gct gca ctt cag atc aca gat gtg aaa ttg cag gat gca      399
Leu Gly Asn Ala Ala Leu Gln Ile Thr Asp Val Lys Leu Gln Asp Ala
     95                 100                 105

ggg gtg tac cgc tgc atg atc agc tat ggt ggt gcc gac tac aag cga      447
Gly Val Tyr Arg Cys Met Ile Ser Tyr Gly Gly Ala Asp Tyr Lys Arg
110                 115                 120                 125

att act gtg aaa gtc aat gcc cca tac aac aaa atc aac caa aga att      495
Ile Thr Val Lys Val Asn Ala Pro Tyr Asn Lys Ile Asn Gln Arg Ile
                130                 135                 140

ttg gtt gtg gat cca gtc acc tct gaa cat gaa ctg aca tgt cag gct      543
Leu Val Val Asp Pro Val Thr Ser Glu His Glu Leu Thr Cys Gln Ala
                145                 150                 155

gag ggc tac ccc aag gcc gaa gtc atc tgg aca agc agt gac cat caa      591
Glu Gly Tyr Pro Lys Ala Glu Val Ile Trp Thr Ser Ser Asp His Gln
         160                 165                 170

gtc ctg agt ggt aag acc acc acc acc aat tcc aag aga gag gag aag      639
Val Leu Ser Gly Lys Thr Thr Thr Thr Asn Ser Lys Arg Glu Glu Lys
         175                 180                 185

ctt ttc aat gtg acc agc aca ctg aga atc aac aca aca act aat gag      687
Leu Phe Asn Val Thr Ser Thr Leu Arg Ile Asn Thr Thr Thr Asn Glu
190                 195                 200                 205

att ttc tac tgc act ttt agg aga tta gat cct gag gaa aac cat aca      735
Ile Phe Tyr Cys Thr Phe Arg Arg Leu Asp Pro Glu Glu Asn His Thr
                210                 215                 220

gct gaa ttg gtc atc cca gaa cta cct ctg gca cat cct cca aat gaa      783
Ala Glu Leu Val Ile Pro Glu Leu Pro Leu Ala His Pro Pro Asn Glu
                225                 230                 235

agg act cac ttg gta att ctg gga gcc atc tta tta tgc ctt ggt gta      831
Arg Thr His Leu Val Ile Leu Gly Ala Ile Leu Leu Cys Leu Gly Val
         240                 245                 250

gca ctg aca ttc atc ttc cgt tta aga aaa ggg aga atg atg gat gtg      879
Ala Leu Thr Phe Ile Phe Arg Leu Arg Lys Gly Arg Met Met Asp Val
         255                 260                 265

aaa aaa tgt ggc atc caa gat aca aac tca aag aag caa agt gat aca      927
Lys Lys Cys Gly Ile Gln Asp Thr Asn Ser Lys Lys Gln Ser Asp Thr
270                 275                 280                 285

cat ttg gag gag acg taatccagca ttggaacttc tgatcttcaa gcagggattc     982
His Leu Glu Glu Thr
                290

tcaacctgtg gtttaggggt tcatcggggc tgagcgtgac aagaggaagg aatggacccg   1042
tgggatgcag gcaatgtggg acttaaaagg cccaagcact gaaaatggaa cctggcgaaa   1102
gcagaggagg agaatgaaga aagatggagt caaacaggga gcctggaggg agaccttgat   1162
actttcaaat gcctgagggg ctcatcgacg cctgtgacag ggagaaagga tacttctgaa   1222
caaggagcct ccaagcaaat catccattgc tcatcctagg aagacgggtt gagaatccct   1282
aatttgaggg tcagttcctg cagaagtgcc ctttgcctcc actcaatgcc tcaatttctt   1342
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ttctgcatga ctgagagtct cagtgttgga acgggacagt atttatgtat gagtttttcc   1402
tatttatttt gagtctgtga ggtcttcttg tcatgtgagt gtggttgtga atgatttctt   1462
ttgaagatat attgtagtag atgttacaat tttgtcgcca aactaaactt gctgcttaat   1522
gatttgctca catctagtaa aacatggagt atttgtaagg tgcttggtct cctctataac   1582
tacaagtata cattggaagc ataaagatca aaccgttggt tgcataggat gtcaccttta   1642
tttaacccat taatactctg gttgacctaa tcttattctc agacctcaag tgtctgtgca   1702
gtatctgttc catttaaata tcagctttac aattatgtgg tagcctacac acataatctc   1762
atttcatcgc tgtaaccacc ctgttgtgat aaccactatt attttaccca tcgtacagct   1822
gaggaagcaa acagattaag taacttgccc aaaccagtaa atagcagacc tcagactgcc   1882
acccactgtc cttttataat acaatttaca gctatatttt actttaagca attcttttat   1942
tcaaaaacca tttattaagt gcccttgcaa tatcaatcgc tgtgccaggc attgaatcta   2002
cagatgtgag caagacaaag tacctgtcct caaggagctc atagtataat gaggagatta   2062
acaagaaaat gtattattac aatttagtcc agtgtcatag cataaggatg atgcgagggg   2122
aaaacccgag cagtgttgcc aagaggagga aataggccaa tgtggtctgg gacggttgga   2182
tatacttaaa catcttaata atcagagtaa ttttcattta caaagagagg tcggtactta   2242
aaataaccct gaaaaataac actggaattc cttttctagc attatattta ttcctgattt   2302
gcctttgcca tataatctaa tgcttgttta tatagtgtct ggtattgttt aacagttctg   2362
tcttttctat ttaaatgcca ctaaatttta aattcatacc tttccatgat tcaaaattca   2422
aaagatccca tgggagatgg ttggaaaatc tccacttcat cctccaagcc attcaagttt   2482
cctttccaga agcaactgct actgcctttc attcatatgt tcttctaaag atagtctaca   2542
tttggaaatg tatgttaaaa gcacgtattt ttaaaatttt tttcctaaat agtaacacat   2602
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ggaatgaatt tgaagttccc agggctgagg atccatgcct tctttgtttc taagttatct   2722
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tacatttaga caaccaccat ttgttaagta tttgctctag gacagagttt ggatttgttt   2842
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aaaagcaatc ttattattaa ctctgtatga cagaatcatg tctggaactt ttgttttctg   2962
ctttctgtca agtataaact tcactttgat gctgtacttg caaaatcaca ttttctttct   3022
ggaaattccg gcagtgtacc ttgactgcta gctaccctgt gccagaaaag cctcattcgt   3082
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cctggaggtt tcgagattca gatgccctgg gagatcccag agtttccttt ccctcttggc   3202
catattctgg tgtcaatgac aaggagtacc ttggctttgc cacatgtcaa ggctgaagaa   3262
acagtgtctc caacagagct ccttgtgtta tctgtttgta catgtgcatt tgtacagtaa   3322
ttggtgtgac agtgttcttt gtgtgaatta caggcaagaa ttgtggctga gcaaggcaca   3382
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actttatccc ttttgtctca tgtttcatcg taaatggcat aggcagagat gatacctaat   3502
tctgcatttg attgtcactt tttgtacctg cattaattta ataaaatatt cttatttatt   3562
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<210> 6
<211> 25
<212> PRT
<213> Homo sapiens

<400> 6
Met Ala Ile Ser Gly Val Pro Val Leu Gly Phe Phe Ile Ile Ala Val
1   5   10   15
Leu Met Ser Ala Gln Glu Ser Trp Ala
            20   25

<210> 7
<211> 5
<212> PRT
<213> Bovidae

<400> 7
Lys Phe Glu Arg Gln
1   5

<210> 8
<211> 15

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<212> PRT
<213> Homo sapiens

<400> 8
Met Asp Asp Gln Arg Asp Leu Ile Ser Asn Asn Glu Gln Leu Pro
  1               5                  10                  15


<210> 9
<211> 4
<212> PRT
<213> Rattus rattus

<400> 9
Lys Asp Glu Leu
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<210> 10
<211> 210
<212> PRT
<213> Homo sapiens

<400> 10
Val Glu Tyr Gly Ser Asn Met Thr Ile Glu Cys Lys Phe Pro Val Glu
  1               5                  10                  15
Lys Gln Leu Asp Leu Ala Ala Leu Ile Val Tyr Trp Glu Met Glu Asp
            20                  25                  30
Lys Asn Ile Ile Gln Phe Val His Gly Glu Glu Asp Leu Lys Val Gln
            35                  40                  45
His Ser Ser Tyr Arg Gln Arg Ala Arg Leu Leu Lys Asp Gln Leu Ser
      50                  55                  60
Leu Gly Asn Ala Ala Leu Gln Ile Thr Asp Val Lys Leu Gln Asp Ala
 65                  70                  75                  80
Gly Val Tyr Arg Cys Met Ile Ser Tyr Gly Gly Ala Asp Tyr Lys Arg
                  85                  90                  95
Ile Thr Val Lys Val Asn Ala Pro Tyr Asn Lys Ile Asn Gln Arg Ile
            100                 105                 110
Leu Val Val Asp Pro Val Thr Ser Glu His Glu Leu Thr Cys Gln Ala
            115                 120                 125
Glu Gly Tyr Pro Lys Ala Glu Val Ile Trp Thr Ser Ser Asp His Gln
      130                 135                 140
Val Leu Ser Gly Lys Thr Thr Thr Thr Asn Ser Lys Arg Glu Glu Lys
145                 150                 155                 160
Leu Phe Asn Val Thr Ser Thr Leu Arg Ile Asn Thr Thr Thr Asn Glu
                  165                 170                 175
Ile Phe Tyr Cys Thr Phe Arg Arg Leu Asp Pro Glu Glu Asn His Thr
                  180                 185                 190
Ala Glu Leu Val Ile Pro Glu Leu Pro Leu Ala His Pro Pro Asn Glu
            195                 200                 205
Arg Thr
      210


<210> 11
<211> 205
<212> PRT
<213> Homo sapiens

<400> 11
Lys Glu Val Lys Glu Val Ala Thr Leu Ser Cys Gly His Asn Val Ser
  1               5                  10                  15
Val Glu Glu Leu Ala Gln Thr Arg Ile Tyr Trp Gln Lys Glu Lys Lys
            20                  25                  30
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Met Val Leu Thr Met Met Ser Gly Asp Met Asn Ile Trp Pro Glu Tyr
        35              40              45
Lys Asn Arg Thr Ile Phe Asp Ile Thr Asn Asn Leu Ser Ile Val Ile
        50              55              60
Leu Ala Leu Arg Pro Ser Asp Glu Gly Thr Tyr Glu Cys Val Val Leu
65              70              75              80
Lys Tyr Glu Lys Asp Ala Phe Lys Arg Glu His Leu Ala Glu Val Thr
            85              90              95
Leu Ser Val Lys Ala Asp Phe Pro Thr Pro Ser Ile Ser Asp Phe Glu
            100             105             110
Ile Pro Thr Ser Asn Ile Arg Arg Ile Ile Cys Ser Thr Ser Gly Gly
        115             120             125
Phe Pro Glu Pro His Leu Ser Trp Leu Glu Asn Gly Glu Glu Leu Asn
    130             135             140
Ala Ile Asn Thr Thr Val Ser Gln Asp Pro Glu Thr Glu Leu Tyr Ala
145             150             155             160
Val Ser Ser Lys Leu Asp Phe Asn Met Thr Thr Asn His Ser Phe Met
            165             170             175
Cys Leu Ile Lys Tyr Gly His Leu Arg Val Asn Gln Thr Phe Asn Trp
            180             185             190
Asn Thr Thr Lys Gln Glu His Phe Pro Asp Asn Leu Leu
        195             200             205


<210> 12
<211> 218
<212> PRT
<213> Homo sapiens

<400> 12
Ala Tyr Phe Asn Glu Thr Ala Asp Leu Pro Cys Gln Phe Ala Asn Ser
1               5               10              15
Gln Asn Gln Ser Leu Ser Glu Leu Val Val Phe Trp Gln Asp Gln Glu
            20              25              30
Asn Leu Val Leu Asn Glu Val Tyr Leu Gly Lys Glu Lys Phe Asp Ser
        35              40              45
Val His Ser Lys Tyr Met Gly Arg Thr Ser Phe Asp Ser Asp Ser Trp
    50              55              60
Thr Leu Arg Leu His Asn Leu Gln Ile Lys Asp Lys Gly Leu Tyr Gln
65              70              75              80
Cys Ile Ile His His Lys Lys Pro Thr Gly Met Ile Arg Ile His Gln
            85              90              95
Met Asn Ser Glu Leu Ser Val Leu Ala Asn Phe Ser Gln Pro Glu Ile
            100             105             110
Val Pro Ile Ser Asn Ile Thr Glu Asn Val Tyr Ile Asn Leu Thr Cys
        115             120             125
Ser Ser Ile His Gly Tyr Pro Glu Pro Lys Lys Met Ser Val Leu Leu
    130             135             140
Arg Thr Lys Asn Ser Thr Ile Glu Tyr Asp Gly Ile Met Gln Lys Ser
145             150             155             160
Gln Asp Asn Val Thr Glu Leu Tyr Asp Val Ser Ile Ser Leu Ser Val
            165             170             175
Ser Phe Pro Asp Val Thr Ser Asn Met Thr Ile Phe Cys Ile Leu Glu
            180             185             190
Thr Asp Lys Thr Arg Leu Leu Ser Ser Pro Phe Ser Ile Glu Leu Glu
            195             200             205
Asp Pro Gln Pro Pro Pro Asp His Ile Pro
    210             215
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